

6ES8

Variable-Mu Twin Triode

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage (AC or DC)	6.3	volts
Current	0.365	amp

Direct Interelectrode Capacitances:

	<i>Without External Shield</i>	<i>With External Shield^a</i>	
Grid to plate (Each unit) . .	1.9	1.9	μf
Plate to cathode (Each unit).	0.18	0.17	μf
Heater to cathode (Each unit).	3	3 ^b	μf
Plate of unit No.2 to plate of unit No.1.	0.04 max.	0.015 max.	μf
Plate of unit No.2 to grid of unit No.1.	0.003 max.	0.003 max.	μf
Grid of unit No.1 to cathode of unit No.2.	0.002 max.	0.002 max.	μf

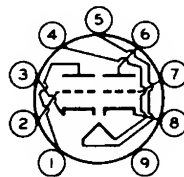
Characteristics, Class A₁ Amplifier (Each Unit):

Plate Voltage	90	90	90	volts
Grid Voltage.	-1.2	-5	-9	volts
Plate Resistance (Approx.).	2500	-	-	ohms
Transconductance.	12500	625	125	μmhos
Plate Current	15	-	-	ma

Mechanical:

Operating Position. Any
 Maximum Overall Length. 2-3/16"
 Maximum Seated Length. 1-15/16"
 Length, Base Seat to Bulb Top
 (Excluding tip) 1-9/16" $\pm$ 3/32"
 Diameter. 0.750" to 0.875"
 Dimensional Outline See *General Section*
 Bulb. T6-1/2
 Base. Small-Button Noval 9-Pin (JEDEC No.E9-1)
 Basing Designation for BOTTOM VIEW. 9AJ

Pin 1 - Plate of
Unit No.2
 Pin 2 - Grid of
Unit No.2
 Pin 3 - Cathode of
Unit No.2
 Pin 4 - Heater
 Pin 5 - Heater



Pin 6 - Plate of
Unit No.1
 Pin 7 - Grid of
Unit No.1
 Pin 8 - Cathode of
Unit No.1
 Pin 9 - Internal
Shield



RADIO CORPORATION OF AMERICA
 Electron Tube Division
 Harrison, N. J.

DATA
 5-61

6ES8

AMPLIFIER — Cascode Type

Maximum Ratings, Design-Center Values:

PLATE SUPPLY VOLTAGE		
with plate current = 0.	550 max.	volts
PLATE VOLTAGE (Each Unit)	130 max.	volts
GRID VOLTAGE:		
Negative-bias value (Each Unit)	50 max.	volts
CATHODE CURRENT (Each Unit)	22 max.	ma
PLATE DISSIPATION (Each Unit)	1.8 max.	watts
HEATER-CATHODE VOLTAGE:		
Unit No. 1: ^c		
RMS voltage between cathode		
and heater.	50 max.	volts
Unit No. 2: ^d		
RMS voltage between cathode		
and heater ^e	50 max.	volts
DC voltage between cathode		
and heater ^e	130 max.	volts

Typical Operation:

In a cascode-type circuit with the grid of the output unit connected to a voltage divider^f

Supply Voltage.	180	volts
Plate Current	15	ma
Transconductance.	12500	μ mhos
Noise Figure ^g	6.5	db
Grid Voltage (Approx.) for		
transconductance (μ mhos) = 125.	-9	volts
Input Voltage for cross-modulation		
factor = 0.01 and transconductance		
(μ mhos) = 125	500	millivolts

Maximum Circuit Values:

Grid-Circuit Resistance (Each Unit) . . .	1 max.	megohm
---	--------	--------

^a With external shield JEDEC No. 315 connected to cathode of unit under test except as noted.

^b With external shield JEDEC No. 315 connected to ground.

^c Grounded-cathode input unit—pins 6, 7, and 8.

^d Grounded-grid output unit—pins 1, 2, and 3.

^e Cathode positive with respect to heater.

^f In order not to exceed the maximum-rated plate voltage when the cascode-type amplifier is controlled, it is necessary to use a voltage divider for the grid of the grounded-grid output unit.

^g Measured with tube operating in a television tuner.

